

Claims

- [c1] What is claimed is:
1. Optical recording media having a scratch-off material layer comprising:
 - a transparent substrate;
 - a reflective layer formed on the transparent substrate;
 - a protective layer formed on the reflective layer;
 - information formed on a surface of the protective layer; and
 - at least one opaque scratch-off material layer formed on the protective layer for disguising the information.
 - [c2] 2. The optical recording media of claim 1 wherein the optical recording media comprises a Compact Disc (CD), a CD-Recordable (CD-R), a CD-Recordable/Write (CD-RW), a Video CD (VCD) and a Digital Video Disc (DVD).
 - [c3] 3. The optical recording media of claim 1 wherein the transparent substrate comprises a central opening and a plurality of pits surrounding the central opening spirally for storing digital information.
 - [c4] 4. The optical recording media of claim 1 further comprising a printing layer formed on the protective layer.
 - [c5] 5. The optical recording media of claim 4 wherein the information is formed on a surface of the printing layer.
 - [c6] 6. The optical recording media of claim 1 wherein the reflective layer comprises gold (Au), silver (Ag), aluminum (Al), copper (Cu), platinum (Pt), chromium (Cr) alloy and aluminum nitride (AlN_x), and the protective layer comprises acrylic resin, polycarbonate (PC) resin, ultraviolet (UV) curing resin, diamond-like carbon (DLC), metal nitride (A_xN_{1-x}), metal oxide (A_xO_{1-x}), silicon nitride (SiN_x), silicon oxide (SiO_s), sulfide zinc-silicon dioxide (ZnS-SiO_2), titanium oxide (TiO_x) and carbide.
 - [c7] 7. The optical recording media of claim 1 wherein the scratch-off material layer is a silver lacquer layer.
 - [c8] 8. The optical recording media of claim 1 wherein the scratch-off material layer

comprises elastomeric resin, organic solvent, powder additive and pigment.

- [c9] 9.The optical recording mediaof claim 1 wherein the information comprises at least one serial number, secret code and rewarding information, composed of characters or pattern signs.

- [c10] 10.The optical recording mediaof claim 1 wherein the information is formed on a predetermined region of the surface of the protective layer, and the scratch-off material layer covering the information has a specific shape.

- [c11] 11.The optical recording mediaof claim 10 wherein the specific shape comprises a geometric shape and a non-geometric shape.

- [c12] 12. Optical recording media having a scratch-off material layercomprising:
a transparent substrate comprising a first recordable region for recording a first specific data and a second recordable region for recording a second specific data;
a reflective layer formed on the transparent substrate;
a protective layer formed on the reflective layer, and not covering the second recordable region; and
at least one opaque scratch-off material layer formed on the protective layer and covering the second recordable region;
wherein when the scratch-off material layer is not scratched, the second specific data is a readable data, and when the scratch-off material layer is scratched, the first specific data is a readable data and the second specific data is a non-readable data.

- [c13] 13.The optical recording mediaof claim 12 wherein the transparent substrate comprises a central opening and a plurality of pits surrounding the central opening spirally for storing digital information.

- [c14] 14.The optical recording mediaof claim 12 wherein the reflective layer covers the transparent substrate outside the second recordable region, and the optical recording media further comprises a reflective film formed on the second recordable region for being a reflective interface of the second recordable region.

- [c15] 15.The optical recording mediaof claim 14 wherein a bonding ability between the reflective film and the second recordable region is weaker than a bonding ability between the reflective layer and the transparent substrate, and when the scratch-off material layer is scratched, the reflective film on the second recordable region is destroyed and scratched simultaneously, thus causing the second specific data to be non-readable data.
- [c16] 16.The optical recording mediaof claim 14wherein the reflective film is a semi-reflective film, and when the scratch-off material layer is scratched, the reflective film on the second recordable region cannot reflect totally, thus causing the second specific data to be non-readable data.
- [c17] 17.The optical recording mediaof claim 12 wherein the reflective layer does not cover the second recordable region, and the scratch-off material layer has a high reflectance for being a reflective interface of the second recordable region.
- [c18] 18.The optical recording mediaof claim 12 wherein the reflective layer covers the transparent substrate and the second recordable region completely.
- [c19] 19.The optical recording mediaof claim 18 further comprising a sacrificial layer formed between the second recordable region and the reflective layer, and when the scratch-off material layer is scratched, a portion of the reflective layer on the second recordable region is destroyed and scratched simultaneously, thus causing the second specific data to be non-readable data.
- [c20] 20.The optical recording mediaof claim 19 wherein a bonding ability between the reflective layer and the sacrificial layer is weaker than a bonding ability between the reflective layer and the transparent substrate.
- [c21] 21.The optical recording mediaof claim 19 wherein a bonding ability between the sacrificial layer and the transparent substrate is weaker than a bonding ability between the reflective layer and the transparent substrate.
- [c22] 22.The optical recording mediaof claim 12wherein the reflective layer comprises gold (Au), silver (Ag), aluminum (Al), copper (Cu), platinum (Pt), chromium (Cr) alloy and aluminum nitride (AlN_x), and the protective layer comprises acrylic

